

**REMARKS**

Applicants respectfully request further examination and reconsideration in view of the above amendments and the comments set forth fully below. Claims 27-30, 35-38, 40, 42 and 44 were pending. Within the Office Action, Claims 27-30, 35-38, 40, 42 and 44 have been rejected. By the above amendment, Claims 29 and 30 have been amended. Accordingly, Claims 27-30, 35-38, 40, 42 and 44 are now pending.

**Rejections Under 35 U.S.C. § 102**

Within the Office Action, Claims 27-30, 35-38, 40, 42 and 44 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,368,823 to McGraw et al. (hereinafter "McGraw"). The applicants respectfully disagree. McGraw teaches automated synthesis of oligonucleotides. McGraw teaches that columns 11 are formed into a carrier plate 8 or built to fit within Luer fittings. McGraw does not teach a vial comprising a bored interior having a consistent dimension to hold a frit for retaining material within the vial above the frit and maintaining a consistent flow through the bored interior during a flushing procedure.

A close-up view of the reaction column 11 taught by McGraw is shown in Figure 2. [McGraw, col. 5, lines 49-52, Figure 2] McGraw teaches that a Luer fitting 15 is fitted into a bulkhead 16. [McGraw, col. 5, lines 45-52, Figures 5 and 6] McGraw then teaches that the column 11 is inserted into the Luer fitting 15. [McGraw, col. 5, lines 51-52, Figures 5 and 6] McGraw does not teach that the column 11 is fitted directly into a bulkhead 16. Accordingly, McGraw does not teach that a pressure-tight seal is provided between the column 11 and the bulkhead 16. In contrast, McGraw teaches that the column is inserted into the Luer fitting 15, which has previously been inserted into the bulkhead 16.

McGraw also teaches that the support 100 is placed on the frit 9 and a second frit 9A is located over the support 100. [McGraw, col. 5, lines 52-55, Figure 6] Thus, McGraw does not teach that the solid support is retained within the column above the frit. In contrast, McGraw teaches the support 100 is positioned between the frit 9 and the frit 9A.

In contrast to the teachings of McGraw, the vial of the present invention includes a support held within the vial above a frit. [Present Specification, page 3, lines 24-25] The interior of each vial is precision bored to ensure a tight consistent seal with the corresponding frit. [Present Specification, page 3, lines 25-27] The vials are held within a cartridge. [Present Specification, page 3, lines 15-16] The exterior of each vial also has a precise dimension to

consistently fit within the cartridge and provide a pressure tight seal around each vial within the cartridge. [Present Specification, page 3, line 27 - page 4, line 2] As discussed above, McGraw does not teach that a pressure-tight seal is provided between the column and a cartridge. In contrast, McGraw teaches that the column is inserted into the Luer fitting 15, which has previously been inserted into the bulkhead 16. As further discussed above, McGraw does not teach that a solid support is retained within the vial above a frit. In contrast, McGraw teaches that the support 100 is positioned between the frit 9 and the frit 9A.

The independent Claim 27 is directed to a vial comprising a bored interior having a consistent dimension to hold a frit for retaining material within the vial above the frit and maintain a consistent flow through the bored interior during a flushing procedure by only forming a pressure differential to expel material from the vial and a solid support retained within the vial above the frit after the flushing procedure. As discussed above, McGraw does not teach that a solid support is retained within the vial above a frit. In contrast, McGraw teaches that the support 100 is positioned between the frit 9 and the frit 9A. For at least these reasons, the independent Claim 27 is allowable over the teachings of McGraw.

Claim 28 is dependent on the independent Claim 27 and adds a further limitation specifying that the vial comprises an exterior dimension to fit within a receiving hole of a cartridge, thereby providing a pressure-tight seal between the vial and the cartridge. As discussed above, McGraw does not teach that a pressure-tight seal is provided between a vial and a cartridge. In contrast, McGraw teaches that the column is inserted into the Luer fitting 15, which has previously been inserted into the bulkhead 16. For at least these reasons, the Claim 28 is allowable over the teachings of McGraw.

Claims 28 and 40 are dependent on the independent Claim 27. As described above, the independent Claim 27 is allowable over the teachings of McGraw. Accordingly, the Claims 28 and 40 are both also allowable as being dependent on an allowable base claim.

The independent Claim 29 is directed to a vial comprising an exterior dimension to fit within a receiving hole of a cartridge thereby providing a pressure-tight seal between the vial and the cartridge, a bored interior having a consistent dimension to maintain a consistent flow through the bored interior during flushing procedures by only forming a pressure differential to expel material from the vial and a solid support retained within the vial above the frit after flushing procedures. As discussed above, McGraw does not teach that a pressure-tight seal is provided between the column and a cartridge. In contrast, McGraw teaches that the column is inserted into the Luer fitting 15, which has previously been inserted into the bulkhead 16. As

further discussed above, McGraw does not teach that a solid support is retained within the vial above a frit. In contrast, McGraw teaches that the support 100 is positioned between the frit 9 and the frit 9A. McGraw also does not teach that a vial includes a bored interior having a consistent dimension to maintain a consistent flow through the bored interior. For at least these reasons, the independent Claim 29 is allowable over the teachings of McGraw.

Claims 30 and 42 are dependent on the independent Claim 29. As described above, the independent Claim 29 is allowable over the teachings of McGraw. Accordingly, the Claims 30 and 42 are both also allowable as being dependent on an allowable base claim.

The independent Claim 35 is directed to a vial. The vial of Claim 35 comprises a bored interior having a consistent dimension to hold a frit for retaining material above the frit and maintain a consistent flow through the bored interior during a flushing procedure by only forming a pressure differential to expel material from the vial, a top opening through which material is dispensed into the bored interior, a bottom opening of a diameter to retain material within the bored interior when no pressure differential is applied and through which material is flushed during the flushing procedure, an exterior dimension to form a pressure-tight seal between the vial and a cartridge when the vial is inserted into a receiving hole of the cartridge and a solid support retained within the vial above the frit after the flushing procedure. As discussed above, McGraw does not teach that a pressure-tight seal is provided between a vial and a cartridge. In contrast, McGraw teaches that the column is inserted into the Luer fitting 15, which has previously been inserted into the bulkhead 16. As further discussed above, McGraw does not teach that a solid support is retained within the vial above a frit. In contrast, McGraw teaches that the support 100 is positioned between the frit 9 and the frit 9A. McGraw also does not teach that a vial includes a bored interior having a consistent dimension to maintain a consistent flow through the bored interior. For at least these reasons, the independent Claim 35 is allowable over the teachings of McGraw.

Claim 44 is dependent on the independent Claim 35. As described above, the independent Claim 35 is allowable over the teachings of McGraw. Accordingly, the Claim 44 is also allowable as being dependent on an allowable base claim.

The independent Claim 36 is directed to a vial. The vial of Claim 36 comprises a frit, a solid support, a bored interior having a consistent dimension to hold the frit for retaining the solid support above the frit and maintain a consistent flow through the bored interior during a flushing procedure by only forming a pressure differential to expel material from the vial, wherein the solid support and material formed on the solid support is retained above the frit,

within the vial, during a flushing procedure, a top opening through which material is dispensed into the bored interior, a bottom opening of a diameter to retain material within the bored interior when no pressure differential is applied and through which material is flushed during the flushing procedure and an exterior dimension configured to form a pressure-tight seal between the vial and a cartridge when the vial is inserted into a receiving hole of the cartridge. As discussed above, McGraw does not teach that a pressure-tight seal is provided between a vial and a cartridge. In contrast, McGraw teaches that the column is inserted into the Luer fitting 15, which has previously been inserted into the bulkhead 16. As further discussed above, McGraw does not teach that a solid support is retained within the vial above a frit. In contrast, McGraw teaches that the support 100 is positioned between the frit 9 and the frit 9A. McGraw also does not teach that a vial includes a bored interior having a consistent dimension to maintain a consistent flow through the bored interior. For at least these reasons, the independent Claim 36 is allowable over the teachings of McGraw.

Claims 37 and 38 are dependent on the independent Claim 36. As described above, the independent Claim 36 is allowable over the teachings of McGraw. Accordingly, the Claims 37 and 38 are both also allowable as being dependent on an allowable base claim.

Applicants respectfully submit that the claims, as amended, are now in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, they are encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,  
HAVERSTOCK & OWENS LLP

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By: Jonathan O. Owens  
Jonathan O. Owens  
Reg. No.: 37,902  
Attorneys for Applicants

CERTIFICATE OF MAILING (37 CFR § 1.8(a))

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